SIEMENS

SIREMOBIL Compact

SP

Log book

Image quality quick test

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System identification

Part No.:	_____	Serial No.:	_____
Cust./Clinic:	_____		
Address:	_____	City:	_____
Country:	_____	State:	_____
Telephone No.:	_____	Cont. person:	_____
System No.:	_____	Branch:	_____
Responsible system engineer:		_____	

Image quality acceptance performed completely in the factory and documented by:

Name (block capitals): _____ Department: _____
Signature: _____ Date: _____

Date of installation of the system at the customer's site: _____

Image quality quick test performed in connection with:

Handing over to customer: ☐
Maintenance: ☐

Adjustments deviating from standard on account of:

Country-specific regulations ☐ Special customer wishes ☐
Reason: _____
_____

Name (block capitals): _____ Regional office: _____
Signature: _____

Required measuring instruments and devices

- Set of X-radiation filter 10 x 0,3 mm Cu — 44 06 120 RV090
- 2.1-mm Cu precision X-radiation filter — 99 00 598 XE999
- 25-mm Al spacer, Type 26765 acc. to DIN 6868 Part 50
  or
  1.2 mm Cu from the radiation filter set — 97 98 596 G5321 and
  17 µm Cu - strip — 11 67 662 G5247
- Set of resolution test patterns — 28 71 820 RE999
  Factory: Resolution test Type 41a
- Densitometer — e.g. X-Rite 331 — 97 02 416 Y1996
  or PTW-BC21 including Black-Check
  Type 5321 and Light box Type 53213

  TV dynamic range test case — 37 90 156 X1963
  or — 97 50 001 X1963

  contains:
  - TV dynamic test — 37 90 164 X1963
  - Heart contour diaphragm — 37 90 172 X1963
  - Capillary test — 37 90 180 X1963
  - Holder — 87 13 901 X1963
  - Lead step test — 87 09 743 X1963
- Protective ground wire tester — 44 15 899 RV090
- Service PC
- Service Software SIREMOBIL Compact
- Service PC-SIREMOBIL serial interface cable — 99 00 440 RE999
  or — 96 60 978 RE999

Test requirements

- The entire system has to function perfectly; moreover, make sure that the
  - grid,
  - X-ray I.I. cover, and
  - Sirephos cover (without DHHS spacer) are installed.
- If the nominal values are not achieved, the system must be adjusted or repaired according to the service instructions.

Prerequisites

- The standard settings are programmed for fluoroscopy, pulsed fluoroscopy and DR. (See Appendix).
- Attach precision X-ray radiation filter 2.1mm Cu for prefiltration in the area of the radiation outlet on the tube assembly.
- The dose rate has been set in the factory to 0.22 µGy/s ± 15 % for full image format of the image intensifier. The kV/mA values to be recorded result from this.

Evaluation

NOTICE

The ADR curves programmed as standard have to be checked. If other ADR curves should be programmed at the customer's request, firstly check the characteristics programmed as standard in order to ensure by comparison that nothing has changed in the system after delivery from the factory.

The curves available in the operating mode selected in each case can be selected with the mA button.

ADR curves for fluoroscopy operating mode

- Select .
- Select image intensifier full image format.
- Select Siematic HC 3 ADR curve; the LED of the mA button is off.
- Radiation on.
- Read the indicated kV and mA values on the control panel.
- Radiation off.
- Enter the values in Tab. 1.
- Select Siematic HC 5 ADR curve; the LED of the mA button is on.
- Radiation on.
- Read the indicated kV and mA values on the control panel.
- Radiation off.
- Enter the values in in Tab. 1.
- The actual values documented in the factory must be reproduced at the application site. Permissible deviations: Tube voltage (kV) ± 1kV, tube current (mA) ± 10 %

ADR curves fluoroscopy	Nominal values (Factory)		Actual values			
			Factory		Application site	
	KV	mA	KV	mA	KV	mA
Siematic HC 3	63 - 68 KV	1.9 - 3.8 mA				
Siematic HC 5	61 - 66 KV	2.1 - 4.7 mA				

Tab. 1

ADR curves for pulsed fluoroscopy operating mode

- Select .
- Select image intensifier full image format.
- Select Siremetic HC 3 ADR curve; the LED of the button is off.
- Radiation on.
- Read the indicated kV and mA values on the control panel.
- Radiation off.
- Enter the values in Tab. 2.
- Select Siremetic HC 5 ADR curve; the LED of the button is on.
- Radiation on.
- Read the indicated kV and mA values on the control panel.
- Radiation off.
- Enter the values in Tab. 2.
- The actual values documented in the factory must be reproduced at the application site. Permissible deviations: Tube voltage (kV) ± 1kV, tube current (mA) ± 10 %

ADR curves pulsed fluoroscopy	Nominal values (Factory)		Actual values			
			Factory		Application site	
	KV	mA	KV	mA	KV	mA
Siremetic HC 3	63 - 68 KV	1.9 - 3.8 mA				
Siremetic HC 5	61 - 66 KV	2.1 - 4.7 mA				

Tab. 2

ADR curves for DR operating mode

- Select .
- Select image intensifier full image format.
- Radiation on.
- Read the indicated kV and mA values on the control panel.
- Radiation off.
- Enter the values in Tab. 3.
- The actual values documented in the factory must be reproduced at the application site. Permissible deviations: Tube voltage (kV) ± 1kV, tube current (mA) ± 10 %

ADR curves DR	Nominal values (Factory)		Actual values			
			Factory		Application site	
	KV	mA	KV	mA	KV	mA
DR 850W	61 - 65 KV	2.7 - 5.0 mA				

Tab. 3

NOTICE **The dynamic test in conjunction with the Plexi capillary test is used to display small differences in contrast.**

- **Test arrangement**
  - Fasten dynamic test without holder but with heart contour diaphragm and Plexi capillary test directly in front of the image intensifier input (Plexi capillaries close to X-ray image intensifier).
- **Prerequisites:**
  - Select FLUO (button) standard settings (see Appendix)
  - Select Siramatic HC3. (LED in the mA button is off.)
  - Select full image format.
  - Select large noise reduction, the LED of the button is off.
  - Edge enhancement (button) off.
  - Select LUT 1.
  - Switch on radiation and evaluate during radiation.
- Evaluation of the monitor image
  - **Nominal value**
    The Plexi capillaries not marked in Fig. 1a must be detectable.
  - Cross off not visible Plexi capillaries in Fig. 1b.

.

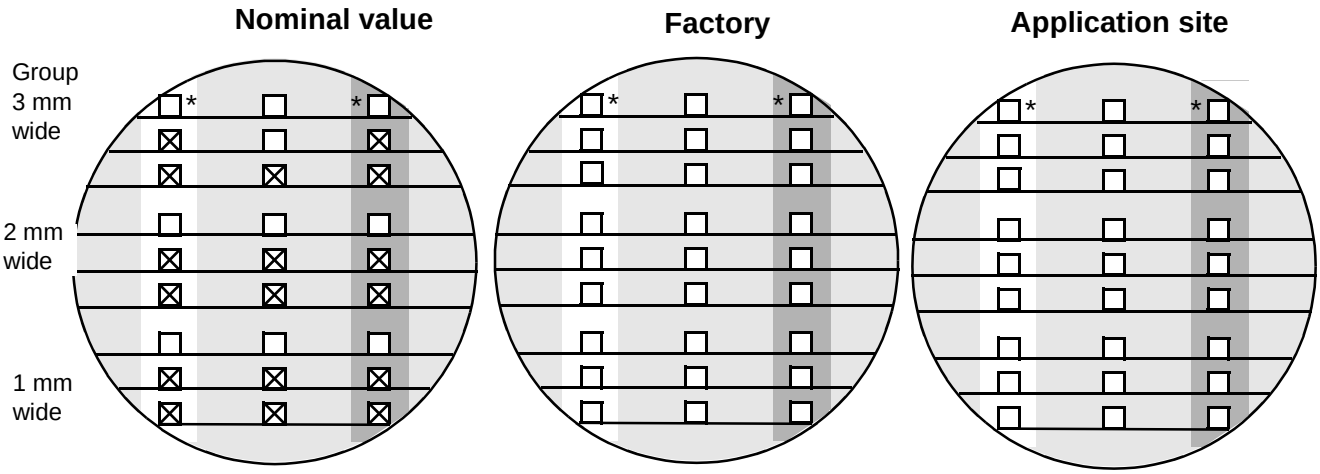

Fig.1a Fig.1b Fig.1c

* Cannot be evaluated/not applicable for 17HDR-C image intensifier

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- **Prerequisites:**
  - Fasten the dynamic test without holder but with heart contour diaphragm and Plexi capillary test directly in front of the image intensifier input (Plexi capillaries close to the X-ray image intensifier).
  - Select FLUO
  - Contrast setting for monitors - step 1 (LUT = 1)
  - Edge enhancement = 0

Edge enhancement

- Switch fluoroscopy on briefly. The LIH image is visible on the monitor.
- Press the button for edge enhancement several times.
  The 2 stages of edge enhancement are selected consecutively. (Edge enhancement off - Edge enhancement stage 1 - Edge enhancement stage 2...)

	Factory	Application site
- Function test of edge enhancement o.k.? (The bright - dark transitions become clearly visible on selecting stage 1 or 2)	☐ y/n	☐ y/n

Noise reduction

- Press the button for selecting the noise reduction factor ; the LED of the button must light up (small noise reduction).
- Switch fluoroscopy on briefly and assess the noise impression of the image during radiation.
- Press the button for selecting the noise reduction factor ; the LED of the button is off (large noise reduction).
- Switch fluoroscopy on briefly and assess the noise impression of the image during radiation.

	Factory	Application site
- Function of the noise reduction o.k.? (Image noise with the LED of the button off lower).	☐ y/n	☐ y/n

Motion detector

NOTICE	**Perform only in the factory.**

- Operating keyboard of the Memoskop present (monitor cart) ? With "n": Test of the motion detector not applicable. ☐ j/n

- **Prerequisites:**
  - Select FLUO
  - Set large noise reduction on MD1 (see Appendix)
  - In addition, place a screwdriver centrally on the dynamic test.
  - Radiation "on"
  - When one of the buttons for image rotation is pressed, the monitor image shows only a slight inertia effect. The image noise becomes clearly visible.
  - Radiation "off"
  - Remove the screwdriver from the image intensifier.
  - Set the noise reduction back to MD2.

- **Evaluation of the monitor image**.

	Factory
- Motion detection o.k.?	☐ y/n

Checking the resolution and the minimum contrast

- Prerequisites:
  - Select FLUO (standard settings see Appendix).
  - Select Siematic HC3 ADR curves; LED of the mA ↑ button is off.
  - Set the edge enhancement to optimum detectability of the resolution.
  - Press the button for noise reduction ; Led of the button must be off.
  - Set contrast (LUT) for monitors to optimum recognition of the resolution.
  - Factory: Use resolution test Type 41 A.
  - Application site: Use resolution text Type 41.

    Fasten resolution test approximately at an angle of 45° to the grid lines in the image intensifier center directly on the grid.
  - Factory:

    Attach 25 mm AL measuring stand to the image intensifier.
  - Application site:

    If a 25 mm AL measuring stand is present (with 0.4 mm notch) attach this close to the image intensifier.
    Otherwise:
    Fasten the 17 µm Cu strip next to the resolution test, directly on the grid and place additional 1.2 mm Cu filtration in the beam path, close to the tube.
  - If overframing occurs at the edge of the image intensifier, eliminate this by collimation.
  - Radiation "on", determine resolution of the LIH image and enter it in Tab 1.
  - In each case check that the minimum contrast is detectable. (Notch in 25 mm AL or 17 µm Cu strip.)
- Evaluation
  - Enter determined line pairs/mm in table 1.

Operating mode	Image intensifier format	**Nominal resolution values** [**Lp/mm**]		**Actual resolution values** [**Lp/mm**]			
				Factory		**Application site**	
		7" (17cm)	9" (23cm)	Monitor 1	Monitor 2	Monitor 1	Monitor 2
during radiation	Full format	≥ 1.4	≥ 1.2		n.a.		n.a.
during radiation	Zoom	≥ 2.2	≥ 1.6		n.a.		n.a.
LIH	Full format	≥ 1.4	≥ 1.2				
LIH	Zoom	≥ 2.2	≥ 1.6				

Tab. 1

Minimum contrast detectable ?

Factory

Full format:	y/n
Zoom:	y/n

Application site:

Full format:	y/n
Zoom:	y/n

The minimum contrast must always be visible.

Checking the control systems

NOTICE	**Perform only in the factory.**

With the prefiltrations stated, the following control systems are in operation:

ADR	at around 6 mm Cu and dynamic test in the beam path
AGC	at around 8.1 mm Cu and dynamic test in the beam path

The test is used for checking the operation of these control systems.

- Preparations
  - Attach dynamic test without holder, with heart contour diaphragm, without Plexi capillary test to the image intensifier.
  - Select FLUO (standard settings see Appendix).
  - Select Siramatic HC3 ADR curve; the LED of the mA ↑ button is off.
  - Select edge enhancement at maximum detectability of bright/dark transitions.
  - Switch X-ray image intensifier to full size.
  - Fully open collimator.
  - Prefilter with copper until 106 kV to 109 kV are displayed. Then switch on fluoroscopy briefly (around 6 mm Cu required).
  - Radiation on.
  - Assess brightness of the fluoroscopic image.
  - Radiation off.
  - Additionally attach 2.1 mm Cu in the region of the radiation outlet.
  - Radiation on, the generator limit (110 kV / 3 mA) must be reached.

- **Evaluation**
  - Assess brightness of the fluoroscopic image.
  - The brightness impression with active ADR and with active AGC must be approximately the same.

    Same brightness impression for ADR and AGC? ☐ y/n

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Image artifacts

- Cross off all image artifacts which have been detected during setting and image quality tests in the table in the image quality test certificate.
- If any image artifacts are detected which are not listed in the table, these must be described under ”Other artifacts”.
- To assess the respective artifacts, there are three rating numbers which indicate the extent of each artifact:

Definition of the rating numbers:

1 = No artifacts could be determined during start-up.

2 = Slight degradations or artifacts have been generated sporadically during start-up. It was not possible to determine the cause or to eliminate the ”error”. The artifacts hardly influence the good total impression of the image and the diagnostic value of the images is not influenced. The artifacts can thus be tolerated.

3 = During start-up, more frequent or stronger artifacts have been generated which influence the total impression of the image or the diagnostic value and can therefore not be tolerated any more. In this state, the system must not be delivered or handed over to the user.

Description of the artifacts:

- **Hum:**
  Inhomogeneities due to electromagnetic interference in the imaging systems are unpleasant and disturbing and can considerably impair the ability to evaluate the images according to the type of artifact. They can be tolerated only to a very small extent. Hum interferences are displayed as periodic horizontal bright-dark structures or as bright or dark transverse bars in the image; they are volatile and not stationary.

- **Interference stripes:**
  Very high-frequent electromagnetic interferences are displayed in the image by bright or dark transverse bars in the image (volatile) which are partly very short. Even interference stripes caused by dirt on optical surfaces must be entered. They are stationary and not volatile. Interference stripes can hardly be tolerated.

- **Ghost images:**
  These are object contours which - mostly shifted laterally - are displayed twice. Mostly they are generated by reflections in long video leads that are matched insufficiently. Clearly visible ghost images cannot be tolerated.

- **Background structures** are fixed grid-shaped patterns primarily in the dark parts of the image, which are also termed ”standing noise”.

- **Pixel errors** are image pixels without image information. They are visible as bright and black dots on the monitor and have the size of pixels.

  There are pixel errors that can be tolerated and others that cannot be tolerated. The TV camera is carefully inspected with respect to pixel errors in the TV test bay and only TV cameras the pixel errors of which correspond in their type and number to a factory-internal specification are handed over to the operator. Document these tolerable pixel errors in the IQ quick test.

Image artifacts

Required value for the assessment of the artifact: Only 1 and 2 can be tolerated

Type of artifact	Factory			Start-up		
	Assessment of the artifact***1**					
	1	2	3	1	2	3
Hum						
Interference stripes						
Ghost images (reflections)						
Background structures						
Pixel error						

Other artifacts: _____

_____

_____

_____

_____

***1 Rating number of artifact**

1 = No artifacts
2 = Slight artifacts
3 = Disturbances that cannot be tolerated

Remarks:_____

_____

_____

_____

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Programming the ADR curves

(Only at the customer's request, only at the application site)

The customer is in agreement with the curves programmed as standard, yes/no
For yes: The chapter does not apply. ☐

Note:

<Text>	means:	Press the button with the Text label
"Text"	means:	Enter text on the control console.
[Text]	means:	Select text line with the cursor keys.
{Text}	means	Select the *Text* entry from the Text subfunction of the
Text		service program.
_	means:	Blank

- SIREMOBIL "off".
- Remove the back cover from the SIREMOBIL basic unit.
- Connect the service PC to the service PC interface D1.
- Switch SIREMOBIL on.
- Start the service program and make connection to the SIREMOBIL ([System], [Connect], [Logon] menu)
- Select [Parameter] in the [Adjustment] menu.
- Select *Control Curve Selection* (FL/PFL) at {Parameter Group}. The associated parameter entries appear in the list box.
- Click <Get from Unit>.

NOTICE

The following assignment to the mA button applies after programming the ADR curves:

LED of the button is off: Curve Normal is selected.
LED of the button lights up: Curve Push is selected.

- Select [Curve Normal] in the list box, the entry is displayed inversely.
- At {Value} select the wanted ADR curve. See also Table 1.
- Then click <Set Value>.
- Select [Curve Push] in the list box.

- At {Value} select the wanted ADR curve. See Table 1.

ADR curve
Sirematic LD
Sirematic S3
Sirematic S5
Sirematic HC3
Sirematic HC5
Iodine

Tab. 1

- Click <Put to Unit>. Wait for the SIREMOBIL to boot, then click <OK>.
- Click <Save to File>. The new parameters are saved on the floppy disk.
- Select [Logoff] in the [System] menu. Enter "ADR curves reprogrammed at customer's request" as entry. This ends the service program.
- Note the programmed characteristics in Table 2.
- Enter the programmed ADR curves in the operating instructions.

Programmed ADR curve (Normal curve), LED is off	Programmed ADR curve (Push curve) LED lights up

Tab. 2

- Refit the back cover of the SIREMOBIL and pay attention to protective ground wires.

Checking the reprogrammed ADR curves

Prerequisites:

- The ADR curves programmed as standard have already been checked (Plateau curve 3mA (HC3) and Plateau curve (HC5)).
  See Chapter 2 and Chapter 7 of these instructions.
- FLUO is selected.
- Attach precision X-ray radiation filter 2.1mm Cu for prefiltration in the region of the radiation outlet.

Evaluation:

- The two programmed ADR curves can be selected with the

button:

  LED off = ADR curve 1 (normal operation) selected,
  LED lights up = ADR curves 2 selected.

- Radiation "on"
- Read the indicated kV and mA values on the control panel and enter them in Table 3.
- Enter "n.a." in the kV-mA fields of the generator curves not used.

ADR curves	Typical values		Application site actual value	
	kV	mA	kV	mA
Siramatic LD	80 - 96kV	0.2 - 0.4mA		
Siramatic S3	67 - 79kV	0.9 - 1.5mA		
Siramatic S5	65 - 75kV	1.1 - 1.9mA		
Siramatic HC4	63 - 68kV	1.9 - 3.8mA		
Siramatic HC8	61 - 66kV	2.1 - 4.7mA		
Siramatic "Iodine"	61 - 65kV	2.1 - 5,0mA		

Tab. 3

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Multispot 2000 present?
If "n": chapter not applicable. ☐ yes/no

Since the Multispot 2000 must be optimally set for the film used and the development required at the user's site, only a functional test is performed at the factory.

Functional check at the factory

The functional check must be performed for all possible image subdivisions, in each case with positive and negative image display.
Definition: Positive image display means that the hardcopy image is identical with the monitor display.

Requirements

- Select Memory test image (Appendix).
- Set LUT to position 1.
- A camera warming-up period of 20 minutes must be observed.
- Select the image subdivision to be tested in each case.
- Select the image display (positive/negative) to be tested in each case.
- Set the relevant B, C, D values shown in Table 1:

	positive image display				negative image display			
	B	C	D		B	C	D	
			at 50 Hz refresh rate	at 60 Hz refresh rate			at 50 Hz refresh rate	at 60 Hz refresh rate
Multispot 2000 1/4, full format	008	550	035	042	020	660	035	042
Multispot 2000 1/4, 4-on-1 image	008	550	016	019	020	660	016	019
Multispot 2000-2	008	550	021	025	020	660	021	025

Tab. 1

- Enter the film type used and the emulsion number:

Film type: Kodak EKTASCAN DNB; Emulsion number:_____

- Enter the film density values measured in Table 2.

NOTICE **In the case of deviations from the nominal value 2 (film density 40%), B must be corrected (adjusted).**

Mark the fields which are not applicable with n.a.

	Setting values factory function check			Film density		
	B	C	D		Nominal value	Factory
MS 2000 1/4 full image,				0% (1)	≤ 0.27	
negative image display				40% (2)	1.0 ± 0.3	
				100% (3)	≥ 2.4	
MS 2000 1/4 full image,				0% (1)	≥ 2.4	
positive image display				40% (2)	1.3 ± 0.3	
				100% (3)	≤ 0.27	
MS 2000 1/4 4-on-1 image,				0% (1)	≤ 0.27	
negative image display				40% (2)	1.0 ± 0.3	
				100% (3)	≥ 2.4	
MS 2000 1/4 4-on-1 image,				0% (1)	≥ 2.4	
positive image display				40% (2)	1.3 ± 0.3	
				100% (3)	≤ 0.27	
MS 2000-2,				0% (1)	≤ 0.27	
negative image display				40% (2)	1.0 ± 0.3	
				100% (3)	≥ 2.4	
MS 2000-2,				0% (1)	≥ 2.4	
positive image display				40% (2)	1.3 ± 0.3	
				100% (3)	≤ 0.27	

Tab. 2

Setting the multiformat camera at the customer's site

The setting must be performed for all possible image subdivisions, in each case with the image display (positive and/or negative) desired by the customer.
Mark the settings not performed with n.a. in the relevant table.
Definition: Positive image display means that the hardcopy image is identical with the monitor display.

- Film type used: _____ Emulsion number: _____

- Select Memory test image (Appendix).
- A camera warming-up period of 20 minutes must be observed.
- Set LUT to position 1.
- Start the setting procedure with the B, C, D values shown in Table 2.
- Select the image subdivision to be set in each case.
- Select the image display to be set in each case.
- Change B until the 40% gray level (see Fig.1) corresponds to the nominal value for the film density Dnom. (see Tables 3 to 6).
- Change C until the film density values for white and black corresponds to the nominal values (see Tables 3 to 6).

When increasing the contrast values (C), ensure that the 100% fields and 90% fields and the 0% fields and 10% fields can be distinguished from one another.

Multispot 2000-2:

Negative image display

- Enter the values determined in Table 3.
- Enter the values programmed for B, C, and D in Table 3.

Positive image display:

- Enter the values determined in Table 4.
- Enter the values programmed for B, C, and D in Table 4.

Multispot 2000 1/4:

Negative image display

Full-field image ($^1/_1$)

- Enter the values determined in Table 3.
- Enter the values programmed for B, C, and D in Table 3.

4-on-1 image ($^1/_4$)

- Enter the values determined in Table 5.
- Enter the values programmed for B, C, and D in Table 5.

Positive image display:

Full-field image ($^{1}/_{1}$)

- Enter the values determined in Table 4.
- Enter the values programmed for B, C, and D in Table 4.

4-on-1 image ($^{1}/_{4}$)

- Enter the values determined in Table 6.
- Enter the values programmed for B, C, and D in Table 6.

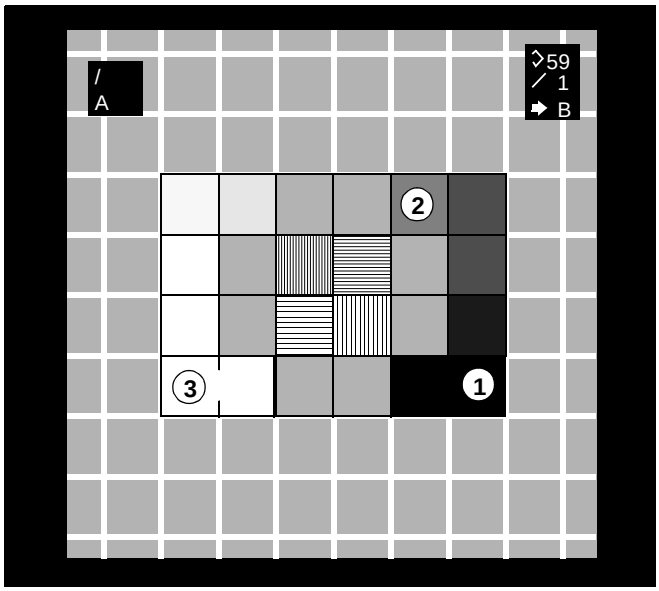

Fig. 1

Memory test image on the monitor [Film = Positive image display]

Application site:

Film density values for Multispot 2000-2 or Multispot 2000 1/4 with full-field image and negative image display:

Field	Film density nominal values D_{nom}	Film density D	Programmed values	
0% (1)	≤ 0.25		B	
40% (2)	1.0 ± 0.1		C	
100% (3)	≥ 2.5		D	

Tab. 3

Application site:

Film density values for Multispot 2000-2 or Multispot 2000 1/4 with full-field image and positive image display:

Field	Film density nominal values D_{nom}	Film density D	Programmed values	
0% (1)	≥ 2.4		B	
40% (2)	1.3 ± 0.1		C	
100% (3)	≤ 0.25		D	

Tab. 4

Application site:

Film density values for Multispot 2000 1/4 with 4-on-1 and negative image display:

Field	Film density nominal values D_{nom}	Film density D	Programmed values	
0% (1)	≤ 0.25		B	
40% (2)	1.0 ± 0.1		C	
100% (3)	≥ 2.5		D	

Tab. 5

Application site:

Film density values for Multispot 2000 1/4 with 4-on-1 and positive image display:

Field	Film density nominal values D_{nom}	Film density D	Programmed values	
0% (1)	≥ 2.4		B	
40% (2)	1.3 ± 0.1		C	
100% (3)	≤ 0.25		D	

Tab. 6

Checking the Multispot resolution

Prerequisites:

- Select FLUO (standard settings see Appendix)
  - Select Siematic HC3 ADC control characteristic; the LED of the mA ↑ button is off.
- Select image intensifier full format.
- Set contrast setting for monitor B to LUT 1.
- Factory: Resolution test Type 41A; Application site: Resolution test Type 41
- Fasten the resolution test at around 45 degrees inclined to the grid lines in the image intensifier center directly on the grid.

- **Factory:**

  Attach 25 mm AL measuring stand close to the image intensifier.

- **Application side:**

  With 25 mm AL measuring stand present (with 0.4 mm notch), attach this close to the image intensifier.
  Otherwise: Fasten 17µm Cu next to the resolution test directly on the grid and attach 1.2 mm Cu in the beam path close to the tube.

- If overframing occurs at the edge of the image intensifier, mask this out.
- Radiation "on" and let it stabilize. Radiation "off".
- Transfer (store) LIH image on monitor B.
- Select negative image display of the Multispot.

Multispot 2000-2:

- Expose film (both partial exposures) and develop it.
- Evaluate both partial exposures.
- Enter the lower resolution value in Table 7.

Resolution nominal values [**Lp/mm**] **negative image display**		**Resolution actual values** [**Lp/mm**] **negative image display**	
7" (17cm)	9" (23cm)	Factory	Application site
1.4	1.2		

Tab. 7

Multispot 2000-1/4:

- Expose a film at full format.
- Evaluate exposure.
- Enter the determined values in Tab. 7.

- Expose a film in 4-on-1 subdivison (all 4 partial exposures).
- Evaluate all 4 partial exposures.
- Enter the lowest resolution value in Tab. 8.

Image format	**Resolution nominal values** [**Lp/mm**] **negative image display**		**Resolution actual values** [**Lp/mm**] **negative image display**	
	7" (17cm)	9" (23cm)	Factory	Application site
Full format	1.4	1.2		
4-on-1 image	1.4	1.2		

Tab. 8

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Final work steps

If the back cover of the basic unit was opened, perform the protective ground wire test according to TI 236 after attaching all covers.

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Selection of the memory test images

Note:

<Text>	means:	Press the button with the Text label
"Text"	means:	Enter text on the control console.
[Text]	means:	Select text line with the cursor keys.
{Text}	means:	Select the *Text* entry from the Text subfunction of the
Text		service program.
_	means:	Blank

For SIREMOBIL with Memoskop keyboard

Selection of the Technical Setup

- Press <CTRL> and <T> simultaneously.
- The Technical Set Up menu appears on monitor B.

Exit Technical Set Up

- You can exit the currently selected menu item with the < →|← > key.
- You exit the Technical Set Up menu by pressing the < →|← > key once again.

Selection of the test image similar to SMPTE

- Call up Technical Setup (see above).
- Enter "1" and press the <Return> key.
  The submenu for selecting a test image appears.
- Enter "1" and press the <Return> key.
- The monitor for displaying the test image can be selected with the cursor keys <←> or <→>.
- Press the < →|← > key.
- Enter "3" and press the <Return> key.
- The wanted test image can be selected with the cursor keys <→> or <←>.
- Press the < →|← > key.
- Enter "4" and press the <Return> key. The test image appears on the previously selected monitor.
- You can exit the currently selected menu item with the < →|← > key.
- Exit Technical Setup again, see above.

For SIREMOBIL without Memoskop keyboard

- SIREMOBIL "off".
- Remove the back cover from the SIREMOBIL basic unit.
- Connect the service PC to the service PC interface D1.
- SIREMOBIL "on".
- Start service program and make connection to the SIREMOBIL ([System] , [Connect] , [Logon] menu)
- Select [Test] in the [diagnostic] menu.
- Select *Memoskop* at {Function Group}.
- Select *SMPTE Test Image* at {Available Functions:}.
- Click <Execute>. The test image similar to SMPTE appears after a few seconds on both monitors.
- After setting the multiformat camera, click the <Cancel> button.
- Select [Logoff] in the [System] menu. Enter "Generator curves reprogrammed at customer's request" as entry. This ends the service program.
- Refit the back cover of the SIREMOBIL and pay attention to protective ground wires.

Changing the noise reduction

Note:

<Text>	means:	Press the button with the Text label
"Text"	means:	Enter text on the control console.
[Text]	means:	Select text line with the cursor keys.
{Text}	means:	Select the *Text* entry from the Text subfunction of the
Text		service program.
_	means:	Blank

For SIREMOBIL with Memoskop keyboard

Selection of the User Setup

- Press <CTRL> and <U> simultaneously.
- The User Setup appears on the monitor B.

Exit User Setup

- You can exit the currently selected menu item with the < →✳← > key.
- You exit the User Setup menu by pressing the < →✳← > key once again.

Changing the noise reduction

- Select User Setup (see above).
- Enter the number in front of the operating mode parameter text line and press the <Return> key. The OPERATING MODE PARAMETERS menu appears on the monitor.
- Enter the number in front of the FLUOROSCOPY text line, large noise reduction and press <Return>.
- You can select the wanted noise reduction with the cursor keys <→> or <←>.
- Then press the < →✳← > key.
- Exit the User Setup again (see above).

For SIREMOBIL without Memoskop keyboard

NOTICE	**All changes of the noise reduction for performing the IQ Quick Test must be reversed again subsequently.**

- SIREMOBIL "off".
- Remove the back cover from the SIREMOBIL basic unit.
- Connect service PC to the service PC interface D1.
- SIREMOBIL "on".
- Start service program and make connection to the SIREMOBIL ([System] , [Connect] , [Logon] menu)
- Select [Parameter] in the [Adjustment] menu.
- Select *Memoskop* at {Parameter Group}.
- Click <Get from Unit>.
- Select FLUO *K-Factor Low* at {Parameter:}.
- Select the wanted noise reduction at {Value}.
- Click <Set Value>.
- Click <Put to Unit>.
- After the SIREMOBIL has booted, click the <OK> button.
- Select [Logoff] in the [System] menu. Enter as entry. This ends the service program.
- Refit the back cover of the SIREMOBIL and pay attention to protective ground wires.

Standard settings

When the SIREMOBIL Compact is delivered, it is supplied with the following standard settings:

ADC control characteristics:

Fluoroscopy	(High contrast off, LED of the button is off):		Siremobil HC3
Fluoroscopy	(High contrast on, LED of the button is on):		Siremobil HC5
Pulsed fluoroscopy	(High contrast off, LED of the button is off):		Siremobil HC3
Pulsed fluoroscopy	(High contrast on, LED of the button is on):		Siremobil HC5
DR			DR 850W *[1]

Noise reduction:

Fluoroscopy	(Large noise reduction, LED of the button is off):		MD 2
Fluoroscopy	(Small noise reduction, LED of the button is on):		MD 1 *[2]
Pulsed fluoroscopy	(Large noise reduction, LED of the button is off):		8
Pulsed fluoroscopy	(Small noise reduction, LED of the button is on):		4
DR	(Large noise reduction, LED of the button is off):		16
DR	(Small noise reduction, LED of the button is on):		8

Edge enhancement:

After the SIREMOBIL Compact is switched on, edge enhancement 0 (edge enhancement = off) is selected.

*[1] Maintain a cooling down phase of 30 s since otherwise the ADC control characteristic DR550W is selected automatically.

*[2]

MEMOSKOP C	up to serial no. 16 180: k-Factor 2
MEMOSKOP C-E	up to serial no. 16 187: k-Factor 2

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Changes to previous version 12 - 1

Chapter 0: Adapted cover sheet.; Revision page complemented.

Chapter 3 old: removed

Chapter 4 old: ⇨ Chapter 3 new

Chapter 5 old: ⇨ Chapter 4 new & slight editorial modifications

Chapter 6 old: ⇨ Chapter 5 new & slight editorial modifications

Chapter 7 old: ⇨ Chapter 6 new

Chapter 8 old: ⇨ Chapter 7 new

Chapter 9 old: ⇨ Chapter 8 new

Chapter 10 old: ⇨ Chapter 9 new

Chapter 11 old: ⇨ Chapter 10 new

Chapter 12 old: ⇨ Chapter 11 new & slight editorial modifications

Chapter 13 old: ⇨ Chapter 12 new & projecting change notes

TD SP 2 / Arnold
TD SP 1 / Schlee
AUT 98 / Carver

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